

## ABSTRACT

An adsorption heat pump is provided in which water vapor can be efficiently adsorbed and desorbed using a heat source having a lower temperature than ones heretofore in use because the pump employs an adsorbent which has a large difference in water adsorption amount in adsorption/desorption and can be regenerated (release the adsorbate) at a low temperature.

The invention provides an adsorption heat pump which comprises an adsorbate, an adsorption/desorption part having an adsorbent for adsorbate adsorption/desorption, a vaporization part for adsorbate vaporization which has been connected to the adsorption/desorption part, and a condensation part for adsorbate condensation which has been connected to the adsorption/desorption part, wherein the adsorbent, when examined at 25°C, gives a water vapor adsorption isotherm which, in the relative vapor pressure range of from 0.05 to 0.30, has a relative vapor pressure region in which a change in relative vapor pressure of 0.15 results in a change in water adsorption amount of 0.18 g/g or larger.